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XXI.—*Field Notes on the Birds of Lower Egypt.* By
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SPARROW, C.M.G., D.S.O., M.B.O.U., *and the Rev.*
F. C. R. JOURDAIN, M.A., M.B.O.U.*

113. *Coracias garrulus garrulus.* Roller.

Numerous, passing through Abu Zabaal from 8 August onwards. Never observed there in the spring, but was common at Kantara at the end of April 1919.

114. *Ceryle rudis rudis.* Pied Kingfisher.

Common and resident. I took a clutch of four eggs at Abu Zabaal on 26 April, 1917, and another of five fresh eggs at Inchas on 12 May, 1918. The nesting-hole was about four feet long in a bank overhanging a canal.

[The only clutch taken was at Ayat on 11 May, 1910, and consisted of four eggs slightly incubated. The nest-hole was in the Nile bank a few feet above the water.—R. S.]

* Continued from p. 264.

115. *Alcedo atthis atthis* (= *A. ispada pallida* auct.).
Kingfisher.

Arrives at Abu Zabaal towards the end of August and remains throughout the winter, leaving again in April.

I have compared specimens from Abu Zabaal at the British Museum and refer them to this form.

116. *Iynx torquilla torquilla*. Wryneck.

More numerous as a spring migrant than in the autumn. Average dates 5 April and 12 September.

117. *Cuculus canorus canorus*. Cuckoo.

Not uncommon on both migrations. I shot a male as late as 6 May, 1916, and another on 15 September, 1918.

118. *Cuculus canorus telephonus*. Cuckoo.

I include provisionally under this name a race of Cuckoos which pass through Abu Zabaal each spring. A bird shot by me on 6 May, 1916, was identified by Mr. M. J. Nicoll as *C. c. saturatus*. Every successive spring I obtained specimens, and a pair were shot out of a bunch of nine seen on 17 April, 1917. On 21 May, 1917, I shot a beautiful hepatic form out on the desert, and a bird only less red and beautiful was shot at the Birket Accrashi on 5 May, 1917.

I gave all my specimens except one to the Giza Museum and Mr. J. L. Bonhote. I compared my specimen with birds in the British Museum, and matched it with five or six large-winged birds from western Asia. These were as yet unidentified, and may possibly be a new race hitherto undescribed. I hope to compare the birds in Mr. Bonhote's collection shortly. I submitted my bird to Dr. E. Hartert, and he kindly gave me his opinion on it as follows:—"Your bird is as large as largest *telephonus*, but it does not show a particularly finely-barred underside. No such race is known which combines the larger size of *telephonus* with the stronger barring of *C. c. canorus*. I would therefore call it *telephonus*."

It certainly is not *C. c. saturatus*, which Dr. Hartert informs me should be called *Cuculus optatus*, and which is unlikely to occur in Egypt.

119. *Clamator glandarius*. Great Spotted Cuckoo.

Not uncommon at Abu Zabaal, and observed at various times throughout the year. I shot a bird of the year there on 30 April, 1916, and an adult male on 6 May, 1916. I had very little luck with the eggs of this species, and despite much work done in searching the nests of Hooded Crows, I only found one egg. This was in a nest containing also three eggs of the Hooded Crow on 6 June, which must be a very late date indeed, as the Crows have finished breeding at this date as a rule.

[The only three eggs of this species I have from Egypt were taken by a native at Luxor on 22 March, 1910, from a nest of the Hooded Crow, and were considerably incubated.—R. S.]

120. *Centropus ægyptius*. Lark-heeled Cuckoo.

[Common at Ibshawai in the Fayûm at the end of March 1910, where it is undoubtedly resident, but I never found its nest.—R. S.]

121. *Bubo bubo ascalaphus*. Egyptian Eagle-Owl.

I only saw three birds at Abu Zabaal during the whole of my stay. Two of these I wounded, and are, or were when I left Egypt, still alive in the Giza Zoo. All were of the pale form. The dates were 23 June, 26 August, and 8 October.

Captain W. Bigger found a nest containing three young birds in a crevice of rock on the Moqattam Hills behind the Citadel, Cairo, on 20 May, 1917.

It is said to breed on the Pyramids at Giza and Dahshûr, but I was never able to find it there.

[This Owl used to nest near all the Pyramids: eggs are laid under an overhanging rock, and the full clutch is three.

Eggs, Pyramids of Giza, March 1893. Eggs, Abu Roash, 20. iii. 94, one fresh, one hatching; clutch of three slightly incubated at Dahshûr, 28. iii. 09. Saqqara, one egg hard-set, 23. iv. 09.—R. S.]

122. *Asio flammeus flammeus*. Short-eared Owl.

I have met with this Owl annually in the spring, but never in the autumn that I remember. It is very often to be seen sitting on the desert in the full glare of the sun with no protection whatever. It is most numerous between the last week in March and the second week in April.

123. *Athene noctua glaux*. Southern Little Owl.

Abundant wherever suitable places offer shelter. I have found fresh eggs as early as the first week in April and as late as the middle of May. The clutch consists of four to six eggs as a rule.

[This Owl frequently nests in large heaps of stones. I found a clutch of seven eggs once, though six seem to be the usual clutch. It nests at Mena, Abu Sueir, and Abu Roash. My earliest date for fresh eggs is 1 April (a clutch of six), and two fresh eggs as late as 18 June, so it is probably double-brooded.—R. S.]

124. *Tyto alba* subsp. ? Barn-Owl.

Seen and heard occasionally at various times throughout the year. Is sometimes fairly numerous at Abu Zabaal, especially in October, when it preys on the large flocks of Spanish Sparrows which roost in the reed-beds and orange-groves. I only secured its eggs twice,—a pair of fresh eggs at Abu Roash on 1 April, and a clutch of four in an old shed near the Barrage on 2 May, 1918. This latter nest had two dead mice near it.

[This species nests commonly near the Pyramids at Abu Sueir, Giza, Bedrashein, and also at Abu Roash, generally at the bottom of a shaft from which a mummy has been removed. I have taken fresh eggs between 20 March and 14 April. Clutch frequently five or six.—R. S.]

125. *Falco peregrinus* [*calidus* ?]. Peregrine Falcon.

A specimen of one of the large northern races of this species, probably the Siberian form, was seen but not obtained at Abu Zabaal on 24 February, 1917.

126. *Falco peregrinus pelegrinoides*. Barbary Falcon.

Mr. M. J. Nicoll and myself saw a pair of Barbary Falcons feeding young in a nest on the Dahshûr Pyramids on 12 April, 1918. The site was about sixty feet up on the eastern slope and in an impossible place to examine. The Egyptian riots prevented me looking it up again in 1919.

[On 28 March, 1909, I took three fresh eggs from a low ledge on the Dahshûr Pyramid. The eggs are decidedly smaller than those of the Lanner, averaging 49.7×38.1 mm. in size, and in appearance not unlike Hobby's eggs.—R. S.]

127. *Falco biarmicus tanypterus*. Lanner Falcon.

Seen occasionally perching on our tall wireless masts: usually in the autumn. Captain W. Bigger found a nest on which the bird was sitting, on an inaccessible ledge in the cliffs behind the Citadel in Cairo, on 30 March, 1917, and another in the Moqattam Hills, which probably contained young birds, on 5 April, 1917. I found no trace of its breeding on the Great Pyramids.

[Used to breed annually on the north side of the second Pyramid at Giza, from which place I had four young on 30 April, 1893. In 1894 I took a clutch of four eggs, slightly incubated, on 18 March, from the same place. Three of these eggs are like dark Kestrel's eggs in type, the fourth plum-coloured. Average size 52.7×43.2 mm.—R. S.]

128. *Falco concolor*. Sooty Falcon.

On 18 April, 1918, a Sooty Falcon was observed near the Birket Accrashi, and was still in the same vicinity on 20 April. I shot a fine immature bird at Abu Zabaal on 6 August, 1918: it was chasing some Hooded Crows at the time. Major F. W. Borman obtained some information about this species breeding near Sollûm, on the Mediterranean seaboard, but the full particulars are not yet to hand.

129. *Falco subbuteo*. Hobby.

Seen sparingly in the winter months. One shot on 19 October, 1916, at the Birket Accrashi.

130. *Falco columbarius asalon*. Merlin.

Not uncommon during the winter, arriving on the heels of the autumn migration and remaining until March. Examples obtained on 12 November, 1916, and 15 January, 1917.

131. *Falco vespertius vespertinus*. Red-footed Falcon.

About the same number observed as of the preceding species and at about the same times. Examples shot on 19 and 22 October, 1916.

132. *Falco naumanni naumanni*. Lesser Kestrel.

I appear to have no record of meeting with this bird during autumn or winter. It is very common during the last week in March and early in April, at which season I have observed quite fifty at a time flying round the Birket Accrashi.

133. *Falco tinnunculus rupicolæformis*. Egyptian Kestrel.

Common and resident. This species is very fond of building in holes in the sides of native houses. Old nests of the Hooded Crow are also favoured as sites, and one pair nested annually on the top of a palm-tree which had died and shed its leaves. Another pair reared two broods in the cage at the top of one of our wireless masts, 300 feet above the ground. It lays from the end of March until the end of May, from three to five being a clutch. Lizards and locusts form a large part of their food in the breeding-season, and I seldom observed them take birds.

[My dates range from 30 March to 30 April. I took one nest from No. 3 Signal Tower on the Suez road. My largest clutch is four.—R. S.]

[As compared with eggs of the Common Kestrel, those of the Egyptian bird are decidedly small. The average of fifty-five eggs collected by Mr. Raw and Colonel Sparrow is 35.8×30.2 mm., whereas British eggs average 39.7×31.7 mm.—F. C. R. J.]

134. *Aquila heliaca heliaca*. Imperial Eagle.

I several times observed Eagles soaring in the vicinity of Abu Zabaal, but was unable to identify them to my satisfaction. One which I saw sitting on the desert on 14 February, 1914, I was able to identify as the above species, from skins in the Giza Museum and notes made on the spot.

135. *Buteo buteo rufiventer*. (= *B. desertorum* auct.)
Steppe-Buzzard.

I never shot one of these birds, although they were not uncommonly seen, but were always wide awake and difficult of approach. A single bird remained in the vicinity of Abu Zabaal throughout September 1918. Also observed at odd times throughout the winter and early spring.

It is quite possible that some of those seen were referable to *Buteo ferox*, but I was never quite satisfied that such was the case. Colonel Meinertzhagen has, moreover, shown that *B. ferox cirtensis* ranges into southern Palestine (Ibis, 1920, p. 241).

[Mr. M. J. Nicoll saw a pair in the Wadi Hof, apparently breeding, on 1 March, 1910. I saw a pair in the same place on 5 May, 1909. Another pair frequented the Giza gardens in May 1910, and probably bred there, as in June they were seen accompanied by two young birds.—R. S.]

136. *Circus æruginosus*. Marsh-Harrier.

One or more birds haunted the Birket Accrashi throughout the winter. These were, almost without exception, immature birds. They were frequently mobbed by Hooded Crows, and waxed fat on any wounded birds we were unable to retrieve. A pair seen in the Wadi Natrûn on 24 May, 1918, were possibly nesting.

[I saw a pair at Inehas on 12. v. 09, and a single bird at Gheit-el-Nasara on 20. v. 09, so it is quite possible some pairs remain to breed in the Delta.—R. S.]

137. *Circus cyaneus cyaneus*. Hen-Harrier.

Less numerous than the following species. Two or three obtained during the winter and early spring.

138. *Circus macrourus*. Pallid Harrier.

Frequently observed beating the fields and swamps. Several were obtained, one of which, shot on 4 April, 1918, had its hind claw badly ingrown into the pad at the bottom of its foot.

139. *Circus pygargus*. Montagu's Harrier.

Although I never actually shot an example, I believe I have seen specimens during the winter months. A bird observed on 31 March, 1916, by Mr. M. J. Nicoll and myself was, I believe, referable to this species.

140. *Accipiter nisus nisus*. Sparrow-Hawk.

This hawk was frequently observed between late autumn and spring, and I shot several specimens in order to try to identify *Accipiter brevipes* at Abu Zabaal, but in this I was unsuccessful.

141. *Milvus migrans ægyptius*. Yellow-billed or Egyptian Kite.

Common and resident, but does not breed at Abu Zabaal, merely hawking around for food, of which dead fish form a not inconsiderable part. Extremely abundant in Cairo and its suburbs as a resident species, where it is tame and very daring. I have seen these birds swoop down and take cakes off a tea-table spread out of doors, and others diving down in crowded thoroughfares to snatch up a choice piece of garbage and make off with it.

It selects various sites for its nest, but favours tall trees the most, where a large accumulation of nesting material is collected. Ledges on the cliffs behind the Citadel and at Helouan, window-ledges in deserted houses and ruins, and even the flat tops of inhabited houses, are sometimes resorted to. It commences to build very early in the season, and I have taken eggs at the beginning of February, and have observed birds repairing their nests in December in the grounds of the Continental Hotel in Cairo. On the other

hand, I took fresh eggs at Inchas on 11 May, 1916, and have observed birds sitting even later than this date. From one to four eggs are laid, but the latter number is rarely found.

[My earliest date for fresh eggs is Abbassia 28. ii. 09, my latest date for incubated eggs is 19. v. 09. March is the usual month, and a clutch of two is far commoner than three. At Shubra on 3. iii. 09 I found a nest with young. —R. S.]

142. *Haliaëtus albicilla*. White-tailed Eagle.

An undoubted specimen of this species remained round our station for several days in January 1918. Its white tail was very conspicuous when soaring.

143. *Pernis apivorus apivorus*. Honey-Buzzard.

One seen at close quarters on 30 May, 1916, was the only example identified.

144. *Elanus cæruleus cæruleus*. Black-winged Kite.

The only specimen of this splendid species seen near Abu Zabaal was observed in a palm-grove near the Birket Accrash on 19 February, 1916. I believe these birds breed somewhere just north of Giza, on the west of the Nile, but I was unable to secure any direct evidence. It appears very uncommon below Cairo in the Delta, and my observations, contrary to those of Mr. Nicoll, make it anything but crepuscular in its habits.

145. *Pandion haliaëtus haliaëtus*. Osprey.

I have five records of observing this species at Abu Zabaal, and all are in the month of April. On 26 April, 1917, Lieut. D. Paton shot a fine Osprey, which he gave to me. It was found sitting on one of our wireless masts sheltering from a high wind. This species breeds no farther distant than the Gulf of Suez, but I have no particulars as to exact dates.

146. *Neophron percnopterus percnopterus*. Egyptian Vulture.

Observed sparingly at various times throughout the year. Captain W. Bigger found young birds just on the wing in the hills behind the Citadel on 18 April, 1917, and Dr. Beven informs me that he believes that it breeds in the Wadi el Degla, north of Helouan.

[This species used to be common around Cairo in 1893-94, but is now much scarcer. I saw birds along the Suez Road, in the Wadi Hof, and at Dabshûr, in March 1909. I was told of five fresh eggs, from different nests, being taken at Hash Medibah, Fayûm, on 27. iii. 09.—R. S.]

147. *Ægyptius monachus*. Black Vulture.

[One of the large dark Vultures, said to be of this species, nests at Assiout. The nest was in a small sountree, and contained one egg. It was, I believe, found by Mr. Malcolm, but I have lost the record of the date.—R. S.]

148. *Ciconia ciconia ciconia*. White Stork.

This species is very irregular in its visits to Abu Zabaal, and sometimes turns up in what should be the breeding-season. About twenty birds remained throughout nearly the entire spring and summer in the rice-fields at Marg in 1917, and examples were frequently noted at the Birket Accrashi in September and April. None breed, to my knowledge, in Egypt.

149. *Platalea leucorodia* [major?]. Spoonbill.

A flock of Spoonbills flew over Abu Zabaal on 15 March, 1916, flying east, and in September 1918 two lots were observed flying over towards the Nile. I found it numerous on Lake Menzaleh, near Kantara, at the end of April 1919. Although no specimens were obtained, it is evident from specimens in the British Museum that it is the larger form of this species which occurs in Egypt.

150. *Plegadis falcinellus falcinellus*. Glossy Ibis.

A few turn up at the Birket Accrashi every spring, arriving during the first week in April, and remaining some days. Specimens obtained. Never seen in the autumn.

151. *Ardea cinerea cinerea*. Grey Heron.

Numerous on the Birket Accrashi during the winter. Arrives there in September from the north-east, and occasionally remains until the end of April. A wild pair bred in the Zoological Gardens at Giza in 1918, but I have no note of when they laid. I never met with it breeding elsewhere in Egypt, and birds observed in the Fayûm in late March were not breeding there.

[Mr. Nicoll informed me that a pair nested in the Giza Gardens in 1909, 1910, and 1911, and reared young in 1909 and 1910. In 1910 the young had flown by 15 March.—R.S.]

152. *Ardea purpurea purpurea*. Purple Heron.

Purple Herons were noted on the Birket Accrashi during every month of the year except July and August, at which season all the swamp is dried up. I never obtained direct evidence of their breeding in Egypt, but should not be surprised if this were the case.

153. *Egretta alba alba*. Great White Heron.

On 12 November, 1915, I saw a single bird on the Birket Accrashi. This was the only example to come under my observation.

154. *Bubulcus ibis ibis*. Buff-backed Heron.

Thanks to a splendid scheme of protection and a careful supervision by the Zoological Service, this species is again becoming numerous and resident in Lower Egypt. During the latter part of my stay at Abu Zabaal, Buff-backs were often seen there, and during the winter considerable numbers were observed on the marshy rice-fields at Marg. Several large breeding colonies have been established in the Delta,

and a thriving lot breed wild in the grounds of the Zoological Gardens at Giza, where they lay in May and June, rearing two broods annually. They are also re-established in the Fayûm Province, where they are also protected.

155. *Ardeola ralloides*. Squacco Heron.

Squacco Herons appear annually on the Birket Accrashi in small parties about the end of March, remaining until the middle of May. I appear to have no notes of having observed this species in the autumn.

156. *Nycticorax nycticorax nycticorax*. Night Heron.

Single birds and small parties observed on the Birket Accrashi at various times throughout the year, being most often seen in October and November. The only breeding-colony I know of in Egypt is that in the Zoological Gardens at Giza, where I saw young birds about three days old on 8 July, 1916. The same colony had young birds in nests in the banyan-trees on 10 June, 1917. I suspect the existence of another colony somewhere in the neighbourhood of Kafr Aydub, near Zagazig.

157. *Ixobrychus minutus minutus*. Little Bittern.

Resident and fairly numerous, although not often seen. I took two clutches of four eggs each at Inchas on 11 May, 1916, which were half-incubated, and found that this date was consistent in subsequent seasons.

[This species builds a slight nest of rushes in high reeds over deepish water. My dates do not quite agree with those of Mr. Raw, unless the species is double-brooded. Out of nine nests observed at Inchas, three contained five and six four eggs. Fresh eggs 12 May, 4 and 15 June; incubated eggs 29 and 31 May.—R. S.]

158. *Botaurus stellaris stellaris*. Bittern.

I first met with this species on 16 April, 1916, when I shot one on the Birket Accrashi. Later I discovered that it wintered there. In November 1917 I counted nineteen on the wing together, which had been flushed by beaters when duck-shooting.

159. *Phœnicopterus ruber antiquorum*. Flamingo.

Lieut. D. Paton shot a fine example, in my presence, on the Birket Accrashi, on 21 November, 1916. This was my only record from Abu Zabaal, but I found it numerous at the western end of Lake Menzaleh in September and December, and at the eastern end of the lake, near Kantara, at the end of April 1919.

160. *Alopochen ægyptiaca*. Egyptian Goose.

On 10 February, 1916, twelve were seen on the Birket Accrashi, and six days later eighteen were seen flying over. Small lots and one containing over a hundred birds were observed at various times during the winter. A pair of semi-domesticated birds bred in an old Kite's nest in a tree thirty feet from the ground, and had a clutch of addled eggs there on 23 February, 1918. *

161. *Anas platyrhynchos platyrhynchos*. Mallard.

Frequently shot at Abu Zabaal, especially in the bed of the old canal, which is overgrown with reeds, making good cover. Present from October until March.

162. *Anas crecca crecca*. Teal.

This is one of the most numerous ducks at Abu Zabaal, and furnished us with good sport—and eating! Abundant from the end of September to March.

163. *Anas querquedula*. Garganey.

This species is observed at Abu Zabaal in spring and autumn, apparently wintering farther south. I have shot it as late as the end of April, and as early as 14 August, on which date I shot three out of a big flock at Marg. A pair seen in the Wadi Natrûn on 24 May, 1918.

[I observed five males and three females at Giza as late as 1 May, 1910, by which date they should have been breeding.—R. S.]

164. *Anas strepera*. Gadwall.

Seen occasionally in winter at the Birket Accrashi, but is never numerous, and I never shot it there. Abundant in the Fayûm in March 1917.

165. *Anas penelope*. Wigeon.

Even scarcer than the following species, but several obtained in the winter months. Also abundant in the Fayûm in March.

166. *Anas acuta acuta*. Pintail.

Seen sparingly at the Birket Accrashi, where I obtained several at various dates, including one example in eclipse plumage.

167. *Anas angustirostris*. Marbled Duck.

Dr. Beven, of Cairo, shot a specimen at Marg, near Abu Zabaal, on 24 September, 1917, in my presence. He presented this bird to me, and it is now in my collection. A pair of birds seen in the Wadi Natrûn on 23 May, 1918.

[Mr. Nicoll had a female sent to him from the Wadi Natrûn, shot 3 May, 1910, with well-developed ovaries, so it is probable that this species breeds in Egypt.—R. S.]

168. *Spatula clypeata*. Shoveler.

Extremely abundant. Large numbers are shot annually on the Birket Accrashi, where they begin to arrive in September, the main body leaving in March–April.

169. *Netta rufina*. Red-crested Pochard.

I shot a fine male which was consorting with the Pochards mentioned below on 27 March, 1912. This was the only specimen met with.

170. *Nyroca ferina ferina*. Pochard.

Occasionally shot, but never very numerous at Abu Zabaal, except in some deep pools in the base of the stone quarries, where about twenty were observed on 27 March, 1919. A few always winter there.

171. *Nyroca nyroca nyroca*. Ferruginous Duck.

Fairly numerous every winter, and a few generally to be seen or flushed out of the reeds on the Birket Accrashi from October to March.

172. *Nyroca fuligula*. Tufted Duck,

Although numerous elsewhere in Egypt—where deeper water occurs—this species rarely turned up at Abu Zabaal; but I obtained a few, notably on 26 October, 1916, when a pair were shot out of several seen.

173. *Pelecanus* sp.? Pelican.

I saw small lots of Pelicans flying over during the autumn, but they never alighted to my knowledge. On 6 August, 1918, three flew over at no great height, going towards the Nile, and a flock of over fifty were observed steering a similar course on 26 November, 1918.

174. *Podiceps ruficollis capensis*. Little Grebe.

On 11 November, 1918, when returning to Abu Zabaal by train, I saw some birds on a pool of deep water in the base of some disused quarries. Two days later I walked up there to see what they were, and was agreeably surprised to identify them as this species. I was astonished to observe three young birds still in the down, one pair of birds in full summer plumage, and three adults in winter plumage. There are practically no reeds or vegetation about the place, which is surrounded by desert. The nest was a mass of rubbish moored against a rock, and was extremely conspicuous. I secured one of the adults in summer plumage for purposes of identification, and on 18 November Mr. J. L. Bonhote and Major F. W. Borman came down to see the others. Little Grebes probably always remain there, and although only a short mile from my quarters I had never really investigated the place before. Throughout the winter of 1918-19 the numbers increased somewhat, and on 6 April, 1919, I found a nest containing four fresh eggs, having four days previously taken an odd egg from another nest. On this date four birds were in summer plumage and five in winter. My departure from Abu Zabaal soon after prevented me making further observations of these interesting birds.

[A clutch of two eggs in my collection was taken at Inchas on 5 June, 1909: probably a second brood.—R. S.]

175. *Columba livia schimperi*. Schimper's Rock-Dove.

Although I never actually shot a specimen, I frequently saw birds which I think were referable to this subspecies, but tame pigeons are so numerous that its status is rather uncertain. I include it as an Abu Zabaal bird because some flocks observed in the springtime were so uniform in colour and kept such regular lines of flight as to make me feel justified in ascribing them to this form. On 5 April, 1918, my friend Dr. Beven, of Cairo, shot a bird from a nest containing two fresh eggs. It proved to be an undoubted example of this race. It had built its nest in an old well on the edge of the desert just south of the Giza Pyramids.

176. *Columba œnas œnas*. Stock-Dove.

I shot a Stock-Dove near Abu Zabaal on 17 December, 1917, and frequently observed specimens in that locality. On 8 February, 1916, I had a good view of eight flying east along the edge of the desert.

177. *Streptopelia turtur turtur*. Turtle-Dove.

Very abundant in the autumn, when large numbers are shot at Abu Zabaal. It usually passes through in early September. Less numerous, but still fairly common, in spring during the last week in April and the first week in May.

178. *Streptopelia turtur isabellina*. Isabelline Turtle-Dove.

I shot an example at Marg on 7 September, 1917. It was migrating along with the preceding species. I have no data relating to the breeding of this form in Egypt, and a specimen shot in the Fayûm on 21 March, 1917, was not breeding. I also observed quite a few in the Wadi Natrûn at the end of May 1918, but could discover no evidence of their breeding there.

179. *Streptopelia senegalensis ægyptiaca*. Palm-Dove.

Common and resident. Breeds in all months from February to October inclusive.

[At Abbassia on 1 May, 1909, I took a clutch of three eggs on which incubation had begun: possibly the produce of two females. Eggs were also taken at Luxor on 31 March, 1910.—R. S.]

180. *Pterocles senegallus*. Senegal Sand-Grouse.

A few inhabit the desert south of Marg, near Abu Zabaal. They fly in to drink at the pools of water there during June, July, August, and September. There is no doubt that they breed there, but I was never able to get far enough out to locate them.

181. *Pterocles coronatus*. Crowned Sand-Grouse.

Occurs sparingly and spasmodically at Marg, where I have shot several in the breeding-season. On 29 August, 1917, Mr. Bonhote, Dr. Beven, and myself shot eleven. It is a remarkable thing that both this species and *P. senegallus* only come in for water in the early morning, and are never seen through the day or in the evening. It doubtless breeds on the sand-dunes south of Marg, and my hunting-guide, Achmed, said the season was June.

182. *Pterocles senegalensis* [= *P. exustus* auct.]. Singed Sand-Grouse.

I include this species on the authority of a native hunting-guide—Achmed Ali Ferahi of Alag—who states that this species turns up with the two preceding ones at Marg about one year in five. I also heard of Englishmen who had obtained it there. Achmed Ali was with me when I shot several examples in the Fayûm, and he identified it on sight and by its call before being shot. In the Fayûm it is common near Tamiia and at Edwa.

[I have a pair of eggs of this species taken on an island at Ayat on 9 May, 1894. I revisited the island in 1910, but failed to see any birds.—R. S.]

183. *Burhinus œdicnemus saharæ*. Saharan Stone-Curlew.

Unlike the following species these birds show a marked preference for the open desert, only coming into the cultivation

in the evening and night-time to feed. Common and resident at Abu Zabaal, where it is usually seen in pairs, but is more gregarious in the winter months, when small parties feed on the edge of the cultivation. I have found many of its eggs by tracking the birds' feet-marks on the sand. The eggs are usually laid well out on the desert from early April until late June. Sometimes only one egg is laid, and I never found three. Two clutches of eggs were taken in the Wadi Natrûn at the end of May 1918, and the birds identified.

[The only pair of eggs I have of this species were taken at Abu Roash on 15. iv. 09.—R. S.]

184. *Burhinus senegalensis*. Senegal Stone-Curlew.

I identified this species at Abu Zabaal by shooting specimens there on 20 September and 23 October, 1918. At that time several were seen in a large orange-grove near the canal. The riots in the spring of 1919 prevented me hunting for their eggs there; this was most disappointing, as I was very interested in its breeding-habits elsewhere. I took fresh eggs of this species at the Barrage near Cairo on 28 April, 1918. These were found on the roof of a large low building, and as many as ten pairs were counted using the same roof as a breeding resort. I never heard of this bird selecting any other site as a nesting-place in Egypt, and it is common in Cairo itself, but rarely met with elsewhere. A pair of birds breed annually on the top of the Lion House in the Zoological Gardens at Giza, laying their pair of eggs on the bare concrete in the full sunlight. Four broods were raised there in 1916, the last clutch being laid during the first week in July. Mr. Nicoll quotes this pair as having raised three young ones on one occasion. I know of no method of distinguishing its eggs from those of *B. a. saharae*. In habits, however, it is quite different from that species, as it seems to prefer gardens and orchards, and its cry appeared to me to be much louder. During the full moon they were very noisy flying along the Nile.

185. *Cursorius gallicus gallicus*. Cream-coloured Courser.

A few pairs are resident on the edge of the cultivation near Abu Zabaal, and also near Marg. Their numbers increase in August and September, when flocks of up to forty-five have been seen. These contained a percentage of immature birds. At all seasons they are inclined to be gregarious, and I noted the fact that they flew considerable distances at a regular time, about sundown, to feed on the camel-thorn patches which occur on the edge of the desert. There they consumed enormous numbers of small green caterpillars. Throughout my stay the same line of flight was always used with a surprising regularity. I spent more time looking for eggs of this bird than for any other species—and never succeeded. In 1916 I shot a bird of the year in August. In 1917 Captain W. Bigger and myself caught a young bird about a fortnight old, which was feeding with the adults on the edge of the desert. In 1918 Lieut. D. Paton discovered a pair of chicks about a day old. I saw these, and they must have been hatched on a patch of gravel about half a mile out in the desert. This was on 13 May, and two days later I located yet two other lots of young birds in similar situations. With these dates to work on I had hopes of finding eggs in 1919, but unfortunately the riots and my departure from Egypt prevented my doing so. I never met with more cunning and wide-awake birds, and as their breeding numbers were so small, finding their eggs was a difficult proposition. I saw young Coursers about a fortnight old on the desert at the Wadi Natrûn on 24 May, 1918, and have little doubt but that it breeds on the edge of the desert both east and west of the Nile.

186. *Glareola pratincola pratincola*. Common Pratincole.

Major F. W. Borman found the red-winged form breeding near Sidi Salem in 1918.

On 29 May hard-set eggs and young birds were found by him on a piece of waste ground, Sidi Salem is in the Delta near the coast. The clutch appeared to be two or three.

[At Inchas on 28 April and 3 May, 1909, I shot specimens

of Common Pratincole with ovaries much enlarged, but they did not remain at Inchas, as on 29 May I did not see a single bird.—R. S.]

187. *Glareola melanoptera*. Black-winged Pratincole.

I shot an immature bird of this species near the Birket Accrashi on 4 October, 1916. Parties of Pratincoles (species?) were seen passing over on 14 April, 29 August, and 4 September, 1917, and on similar dates in 1918.

188. *Charadrius hiaticula hiaticula*. Ringed Plover.

Frequently observed on the Birket Accrashi from September to March.

189. *Charadrius dubius curonicus*. Lesser Ringed Plover.

Equally numerous with the preceding species, with which it arrives and departs. One seen at Marg on 14 August, 1917.

190. *Charadrius alexandrinus alexandrinus*. Kentish Plover.

I first identified this species at Abu Zabaal by shooting one there on 16 June, 1916. More were observed on 13 July, and it often turned up with other Waders during the succeeding winter, but does not breed there. It is abundant nearer the sea-coast as a breeding species, and eggs have been taken there from April to June. I took a clutch of three fresh eggs in the Wadi Natrûn on 27 May, 1918, and observed numbers of young birds there about the same date.

[A common breeding species on the islands in Lake Mönzaleh. On 20–22 May, 1909, I found six nests, all but one having hard-set eggs or young just hatching. The nests were in various situations: one on dry mud, several on red earth, others on a small beach covered with small shells. In the first two cases the nests were easy to find: in the latter difficult.—R. S.]

191. *Charadrius varius varius*. Kittlitz Plover.

Frequently observed and obtained at the Birket Accrashi during the winter months. It usually disappeared in early March, but I have seen it there until the end of that

month. It is a remarkable thing that it does not remain to breed at Abu Zabaal or Inchas, where suitable ground is abundant, for it breeds nearer the coast, and is numerous in the nesting-season on the shores of Lake Qarûn in the Fayûm Province. In the latter locality I found five nests between the 18th and 21st of March, 1917. Two eggs are a full clutch, and the bird always covers the eggs prior to leaving them. They are completely covered up and very difficult to find, but I discovered tracking the bird in the sand quite a good plan, for they always run away when danger approaches. I shot a female from the nest, and proved by a post-mortem that two was a full clutch. Sometimes the eggs are laid near to the water's edge, but more frequently a hundred yards or more from the nearest water, and always quite in the open. By watching through a pair of field-glasses from a distance, one can see the bird rapidly scratching the sand or dry mud over the eggs when they are alarmed; they then casually stroll off. We did not meet with this species in the Wadi Natrûn in May 1918.

Major F. W. Borman was able to confirm my observations in 1918, when he took three clutches of eggs at Sidi Salem on 29 May. Thus it would appear that this bird is at least double-brooded.

[I took one fresh egg on waste ground near Lake Qarûn on 27 March, 1910. In South Africa, where I found several nests, my observations agree with Mr. Raw's, but if one rode near the nest the bird, instead of running away, stood up over the eggs and flapped her wings, and on dismounting pecked at a friend's finger. This procedure is to drive off sheep and goats, and if a flock of goats were driven over the nesting-ground I believe every nest could be found.—R. S.]

192. *Charadrius mongolus geoffroyi*. Geoffroy's Plover.

A rare bird at Abu 'Zabaal. I only met with one bird, which I shot on 1 August, 1917. It was a bird of the year, and was feeding with some Cream-coloured Coursers on the desert scrub. Fairly numerous on the coast in September 1916.

193. *Charadrius morinellus*. Dotterel.

Occasionally small parties were observed at Abu Zabaal. Usually seen on dry fallow land or the open desert. In some winters more numerous than others. Is always tame and confiding. Specimens obtained on 19 December and 2 January.

194. *Himantopus himantopus himantopus*. Black-winged Stilt.

This species passes through Abu Zabaal in spring and autumn. Observed between 22 March and 16 April and during the first fortnight in September.

Major F. W. Borman and I found six pairs breeding in a most foul swamp at the Wadi Natrûn in 1918. We found three nests containing eggs much incubated on 25 May. Two nests contained three eggs, and one nest two.

195. *Hoplopterus spinosus*. Spur-winged Plover.

Common and resident at Inchas, and fairly numerous at Abu Zabaal. This species breeds from 10 April onwards, and I saw a clutch of four eggs near the Birket Accrashi as late as 10 August, 1910. The eggs are frequently laid on the margin of a pool of stagnant water, and sometimes are quite conspicuous by being shown up in the white salty deposit left by the receding water. Four is the usual clutch, but I have found the bird sitting on two or three only. This species is very wary, and is much detested by shooters, as it gives a very noisy alarm on the approach of danger. Eggs were taken in the Wadi Natrûn, and newly-hatched chicks seen at the end of May 1918.

[My dates for fresh eggs taken at Inchas vary from 20 April to 27 June, though mid-May seems to be the best time. I have one pair of eggs, incubated when found, which have a very strong erythristic tendency.—R. S.]

196. *Recurvirostra avosetta avosetta*. Avocet.

A flock of twelve were identified when flying over Abu Zabaal on 28 September, 1916.

197. *Chettusia leucura*. White-tailed Plover.

A single bird observed at the Birket Accrashi on 19 September, 1917, where it remained for a week. Several shot near Tamiia, in the Fayûm, in February and March.

198. *Vanellus vanellus*. Green Plover.

Large flocks appear at intervals at Abu Zabaal from October to March. Four were seen as late as 16 April, but I found no evidence of any remaining to breed in Egypt.

199. *Erolia ferruginea*. Curlew Sandpiper.

Never observed in the spring, but noted and obtained in the autumn; notably, on 6 October, 1916, when I shot four out of a large bunch, on the Birket Accrashi. They were then in full winter plumage.

200. *Erolia alpina*. Dunlin.

Rather uncommon at Abu Zabaal, but occurs sparingly every winter. A specimen was shot on 11 October, 1916.

201. *Erolia minuta*. Little Stint.

Most numerous in October and March, when flocks haunt the open pools on the Birket Accrashi. Small lots appear at intervals throughout the winter.

202. *Erolia temminckii*. Temminck's Stint.

Less numerous than the preceding species, with which it consorts. Examples of each were shot out of the same flock.

203. *Tringa totanus totanus*. Redshank.

Not uncommon at the Birket Accrashi during the winter months. Usually arrives in early October, and noted as late as 10 May.

204. *Tringa stagnatalis*. Marsh Sandpiper.

A large flight observed and specimens obtained on 6 October, 1916, on which date the Birket Accrashi was alive with Waders of various species. Observed sparingly throughout the winter.

205. *Tringa nebularia*. Greenshank.

Occurs singly and rarely at Abu Zabaal. It was noted on 14 August, 24 August, 7 September, 10 October, and 11 February.

206. *Tringa ochropus*. Green Sandpiper.

Winters at Abu Zabaal, and on the rice-fields at Marg. Arrives as early as 10 August, on which date, in 1918, I saw at least twenty. It is usually observed alone, and is not nearly so gregarious as the following species. Some few birds remain until May before taking their departure.

207. *Tringa glareola*. Wood-Sandpiper.

More numerous than the preceding species. Small parties observed as early as 14 August, and as late as 22 May. Between these dates it is common at the Birket Accrashi.

208. *Tringa hypoleuca*. Common Sandpiper.

Single birds observed during nearly all the months of the year. Several seen on 21 July, and four on 8 August, 1917. Frequents the sides of the canals, and is rarely seen on the Birket Accrashi. I have no evidence of its breeding in Egypt, but should not be surprised if such is the case.

209. *Philomachus pugnax*. Ruff.

Large numbers of Ruffs are to be seen at the Birket Accrashi, especially in October and March, but less numerous between these dates. Early arrivals were noted on 3 September, and late birds linger until 1 May. I never saw one in anything like full summer plumage.

210. *Numenius arquatus arquatus*. Curlew.

Rarely observed at Abu Zabaal, but single birds noted on 30 August, 7 September, 4 October, and 15 October, etc.

211. *Limosa limosa limosa*. Black-tailed Godwit.

Observed and obtained at the Birket Accrashi in spring and autumn, and seen sparingly throughout the winter. On 22 March, 1916, a bird of this species struck our aerial wires,

and damaged its wing. It lived for a considerable time in one of the aviaries at Giza. Earliest arrival noted on 22 September.

212. *Limnocryptes gallinula*. Jack Snipe.

Not uncommon at the Birket Accrashi, where I have shot it from 7 October to 11 April.

213. *Scolopax rusticola rusticola*. Woodcock.

This species winters sparingly in the palm-groves at Alag and Marg, near Abu Zabaal. I shot specimens there on 23 December, 1917, and 6 February, 1918, and have seen others between these dates.

214. *Rhynchæa bengalensis*. Painted Snipe.

Odd pairs are resident, but it seems to prefer small swamps to the Birket Accrashi, where it was but seldom observed. Its well-known skulking habits make observation largely a matter of luck. Dr. Beven found four fresh eggs in a small marsh, south of the Pyramids, on 7 April, 1918; and Major F. W. Borman and myself found a nest, containing three incubated eggs, in the Wadi Natrûn, on 25 May, 1918.

215. *Gallinago gallinago gallinago*. Common Snipe.

Numerous on the Birket Accrashi, where it affords good sport, from September to March. Early arrivals have been noted on 14 August, and some few remain until early May.

216. *Hydrochelidon leucoptera*. White-winged Black Tern.

Small parties observed on the Birket Accrashi in spring and autumn. Noted on 30 April, 20 May, 27 August, 1 September, and 17 September. Examples were obtained in both winter and summer plumage. Numbers were observed in the Wadi Natrûn at the end of May 1918, but we found no trace of their breeding, although it looked a likely place. Captain Boyd records in 'The Ibis,' 1917, p. 556, having seen

Hydrochelidon hybrida (= *leucopareia*) at Abu Zabaal, but I never met with it there myself.

217. *Larus ridibundus*. Black-headed Gull.

Observed only twice at Abu Zabaal. Two seen together on 17 January, 1918, and a single bird shot on 30 December, 1917.

218. *Megalornis grus*. Common Crane.

On 30 April, 1918, I saw a large flock of Cranes flying over Abu Zabaal. They were going due north.

219. *Rallus aquaticus aquaticus*. Water-Rail.

There can be little doubt that this species is a resident in the vicinity of Abu Zabaal, but the good cover lends itself to the Water-Rail's skulking habits. I shot a specimen on 30 December, 1916, and have seen and heard it on numerous occasions, but never found a nest there. As a breeding-bird it is very common in the Wadi Natrûn, and Major F. W. Borman and I found three nests, with hard-set eggs, there on 27 May, 1918. These nests were all found within a hundred yards radius, and were in a dense reed-bed. They contained six, seven, and eight eggs respectively.

[This species nests at Inchas, and probably in many suitable localities in the Delta. My dates are: Two eggs, addled, 30.iii.10; five eggs, fresh, 15.vi.09; four eggs, fresh, 10.iv.10; so that it is probably double-brooded.—R. S.]

220. *Porzana pusilla intermedia*. Baillon's Crake.

In addition to the specimen mentioned below, as having been shot on 19 April, 1917, I only secured one more, namely, a bird shot on the Birket Accrashî, on 3 October, 1917. It is my opinion that both species breed in the Egyptian delta.

221. *Porzana parva*. Little Crake.

I first met with this species on 12 October, 1916, when I shot a specimen on the Birket Accrashî. I shot a second specimen there on 20 October, 1916, and on 28 December,

1916, a third on the old canal swamp near my quarters. During that winter, and throughout my stay in Egypt, I saw Crakes during each month of the year. (I shot a bird on 19 April, 1917, which was wrongly identified as a Little Crake. It was in breeding condition. On 5 August, 1917, when comparing skins in the Giza Museum, this bird proved to be *P. pusilla intermedia*.) I searched diligently for a nest, and on 29 April succeeded in finding one containing six eggs, fifty per cent. incubated. These I took to belong to *P. parva* at the time, but subsequent comparison by the Rev. F. C. R. Jourdain with a large series, proves them to be, in all probability, *P. p. intermedia*.

I could have made definitely certain, had I known at the time that any doubt existed, for, on 3 May in the same year, I caught two young Crakes alive in the same patch of reeds, and saw the parent birds creeping about several times, but refrained from destroying them. Efforts were made by the Giza Zoological Service to rear these chicks, but were unsuccessful.

I was never able to clear the matter up to my own satisfaction, but shot specimens of *P. parva* on 28 February and 26 March, 1917, in the same locality as that in which I discovered the eggs and young, and on the old canal swamp on 28 December, 1918. In the latter place I saw young Crakes on 19 May, 1918, but was unable to obtain an adult.

[At Inchas on 20. iv. 10 I shot a Crake, which Mr. Nicoll identified as *P. parva*, and I believe the skin is still in the Giza Museum. From the late date it ought to have been breeding, but I failed to find a nest.—R. S.]

222. *Gallinula chloropus*. Moorhen.

This species is a resident in suitable places, but is not very numerous at Abu Zabaal in the breeding-season. Its numbers are increased in the winter, at which season I often saw it.

I found incubated eggs at Inchas on 17 May, 1916, and also on 12 May, 1917, in the same locality. On 29 September, 1917, I shot a young bird, at Inchas, still unable to fly.

[A common breeding species at Inchas. Dates for fresh eggs varied from 15 May to 15 June in 1909. The largest clutch obtained was one of six.—R. S.]

223. *Porphyrio madagascariensis*. Green-backed Gallinule.

At the end of April 1919 I was at Kantara. A gang of natives were cutting down the reeds, and the corporal in charge of this anti-mosquito measure informed me that he had had some eggs brought to him the previous day, which, from his description, I think must have belonged to this species. Unfortunately, they had been destroyed. I certainly found the birds numerous in the immediate vicinity on the shores of Lake Menzaleh. I once saw Gallinules at Inchas.

224. *Fulica atra atra*. Coot.

Arrives in October, and remains at Abu Zabaal until March. In some winters very numerous, and in others comparatively rare. When shooting, on one occasion, I saw these birds in such numbers that two collided in mid-air, and both fell and were picked up dead.

225. *Coturnix coturnix coturnix*. Quail.

A few are resident, but are rarely met with. From 3 February to the end of March large numbers pass through, affording good sport. The second week in March marks the height of the migration at Abu Zabaal. Fewer birds are met with on their return flight in September. On 18 April, 1916, I took a clutch of eight Quail's eggs, in a field at Inchas. They were quite fresh. On 20 January, 1917, a native brought me three fresh Quail's eggs, which were all that were left of eight found in a nest, also at Inchas, and, when shooting there in May 1917, a single fresh egg was also brought to me.

[Fresh eggs were brought to me by a native in April, 1894, from Ayat, and two fresh eggs from Luxor, on 22 March, 1910. An oviduct egg with hard shell is unspotted and the colour of a pale English Partridge's egg.—R. S.]

226. *Ammoperdix heyi nicolli*. Nicoll's Desert Partridge.

I saw a single specimen near Gebel Asfur (south of the Birket Accrashi) on 28 November, 1917. I am familiar with this subspecies, having shot it on the Wadi Hof and the Wadi Resheid, near Helouan. A female shot in the former Wadi, on 11 March, 1918, was within a fortnight of laying, and was flushed from under a large rock, which concealed, what Dr. Beven and I thought looked like the beginning of a nest. Several pieces of grass and a lot of plant-heads were gathered together, with a slight depression in the centre. Dr. Beven informs me that he obtained young birds, just on the wing, in the Wadi Resheid, at the beginning of May 1919. I hope these slight indications will help future observers in Egypt to discover the eggs of this interesting recently described Partridge.

ERRATUM.—On p. 249 line 11, *for* Abbassia *read* Ibshawai.

XXII.—*First Impressions of Tunisia and Algeria.* By
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(Plates II.—V.)

OF late years considerable attention has been given by British Ornithologists to the ornithology of northern Africa. Lord Rothschild and Dr. Hartert have, by their exhaustive explorations in Algeria, made the birds of that fascinating country comparatively well known, whilst valuable supplementary notes have appeared from the pens of Messrs. Jourdain, Wallis, and Ratcliff. It is, therefore, with extreme diffidence that I present this short paper to the readers of 'The Ibis.' In the first place, it contains nothing new, and, in the second place, it is not the narrative of an Ornithological Expedition: it is merely the account of a journey through Tunisia and Algeria which some ornithologists have already made and doubtless many others will make in the future. It is to give these latter some idea of the birds they may expect to encounter, and of the scenery they will pass through, that I have ventured to publish my notes.